

STRENGTHENING VALUE CHAIN ACTORS FOR SCALING UP THE REACH OF NUTRITION-DENSE SMALL MILLETS

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Strengthening value chain actors for scaling up the reach of nutrition-dense small millets

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Scaling up Small Millet Post-harvest and
Nutritious Food Products Project



DHAN Foundation
Building Institutions for Generations



McGill

Scheme of presentation

- Why small millets?
- Need for strengthening SM value chain
- Initiatives taken
 - Improving production
 - Establishing decentralised processing
 - Strengthening food enterprises
 - Promoting consumption
- Learning



Why small millets (SM)?

- Triple burden of malnutrition- **Undernutrition, Micronutrient deficiencies & Obesity together**
- Increasing burden of non-communicable diseases
 - **Diabetes, cardiovascular and intestinal disorders, cancer**

Decline in diversity of diets is one of the imp. reasons

Including SM in the diets could be part of solutions!



Finger Millet



Proso Millet



Kodo Millet



Foxtail Millet



Barnyard Millet



Why small millets?...

1. Better nutrition than rice & wheat

- More macro nutrients (protein & fat), micro nutrients (vitamins & minerals) and dietary fibre

2. Medicinal properties

- Low glycemic index, satiety, preventive and curative properties

3. Part of biodiverse cropping system- offers a basket of services & goods

4. Climate resilient crops

5. Nutritious fodder

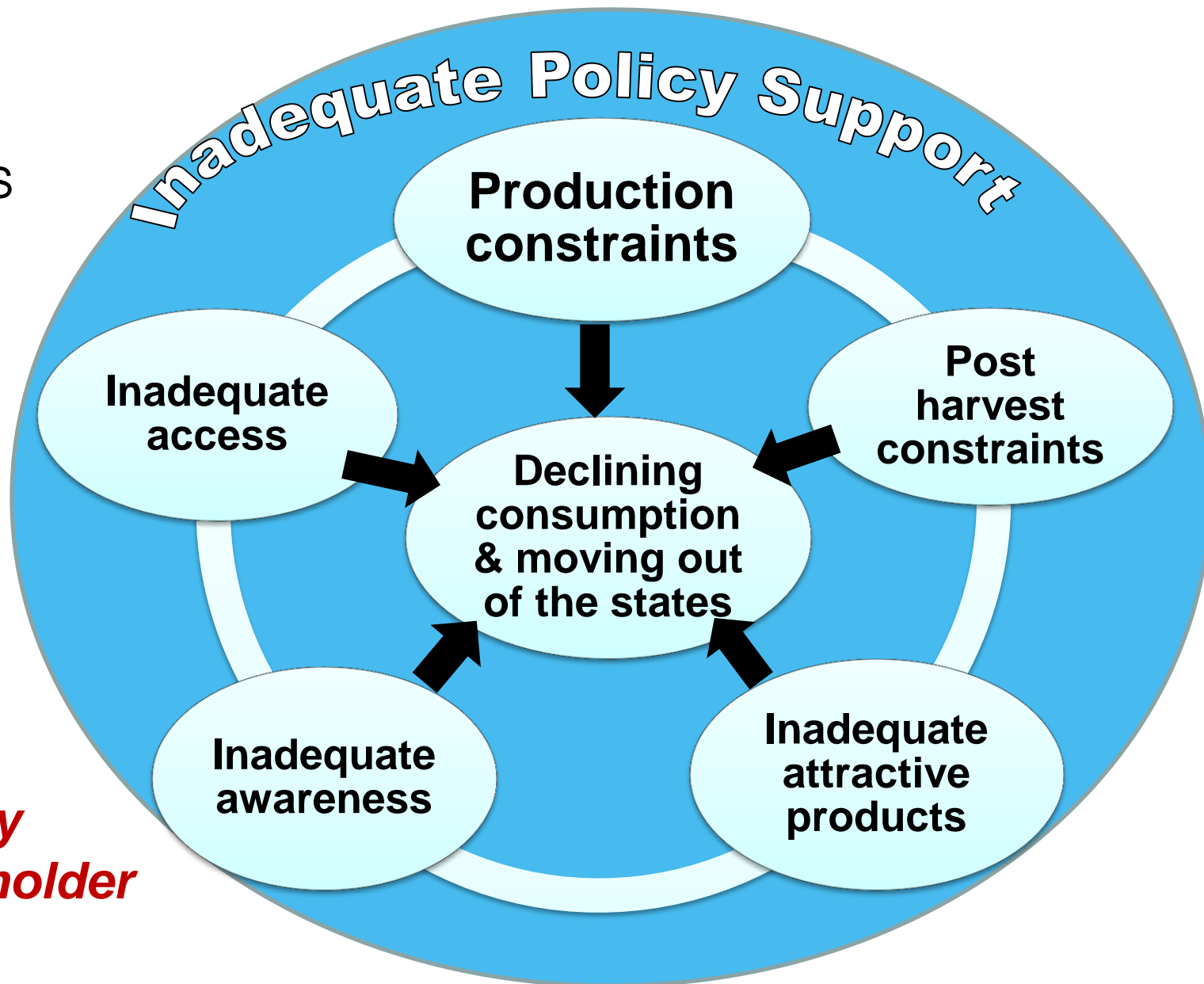
In spite of these advantages, the production and consumption of SM have drastically declined!



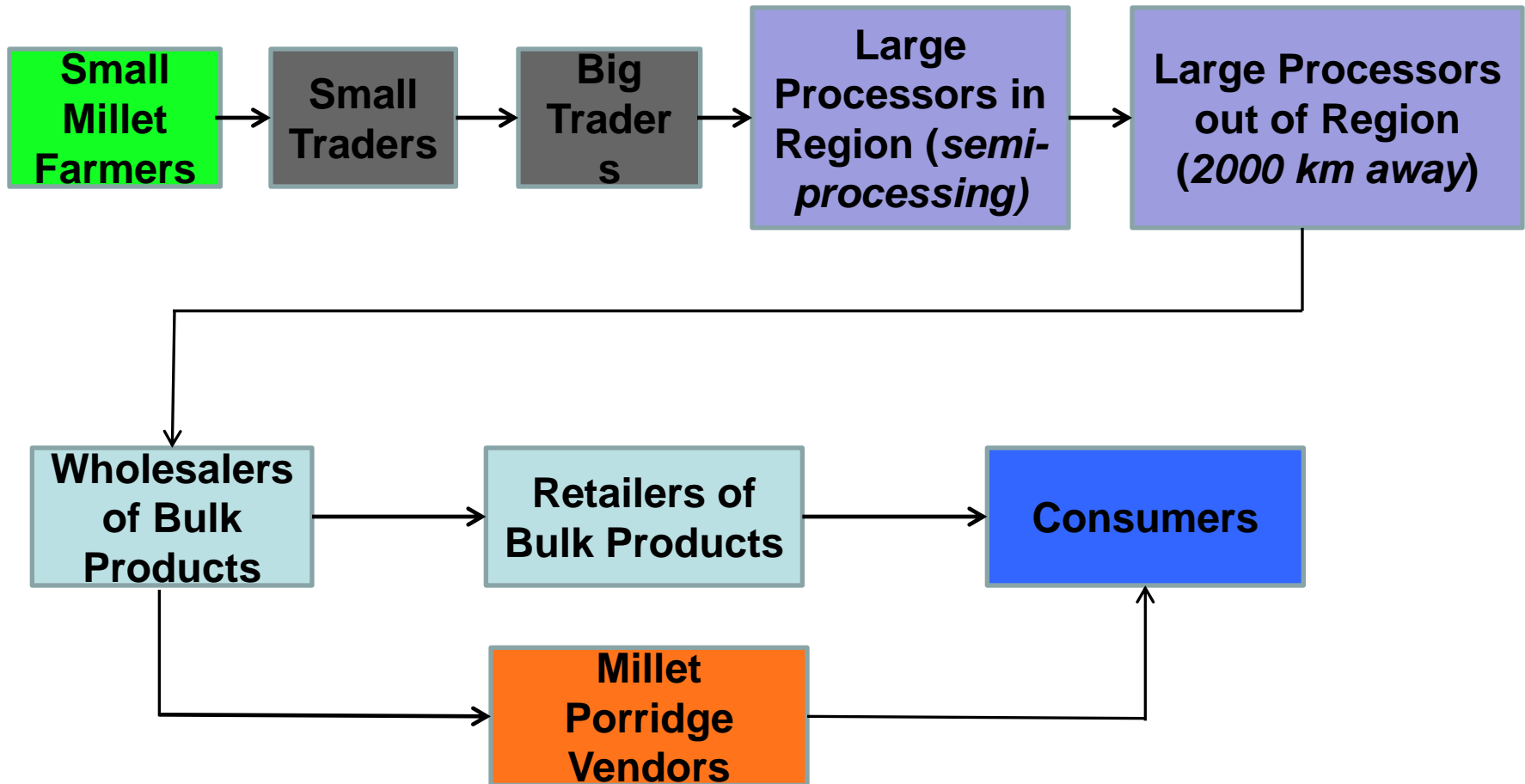
INTEGRATED
MULTIPLE
CONSTRAINTS

NASCENT
TECHNOLOGY AND
MARKET
DEVELOPMENT

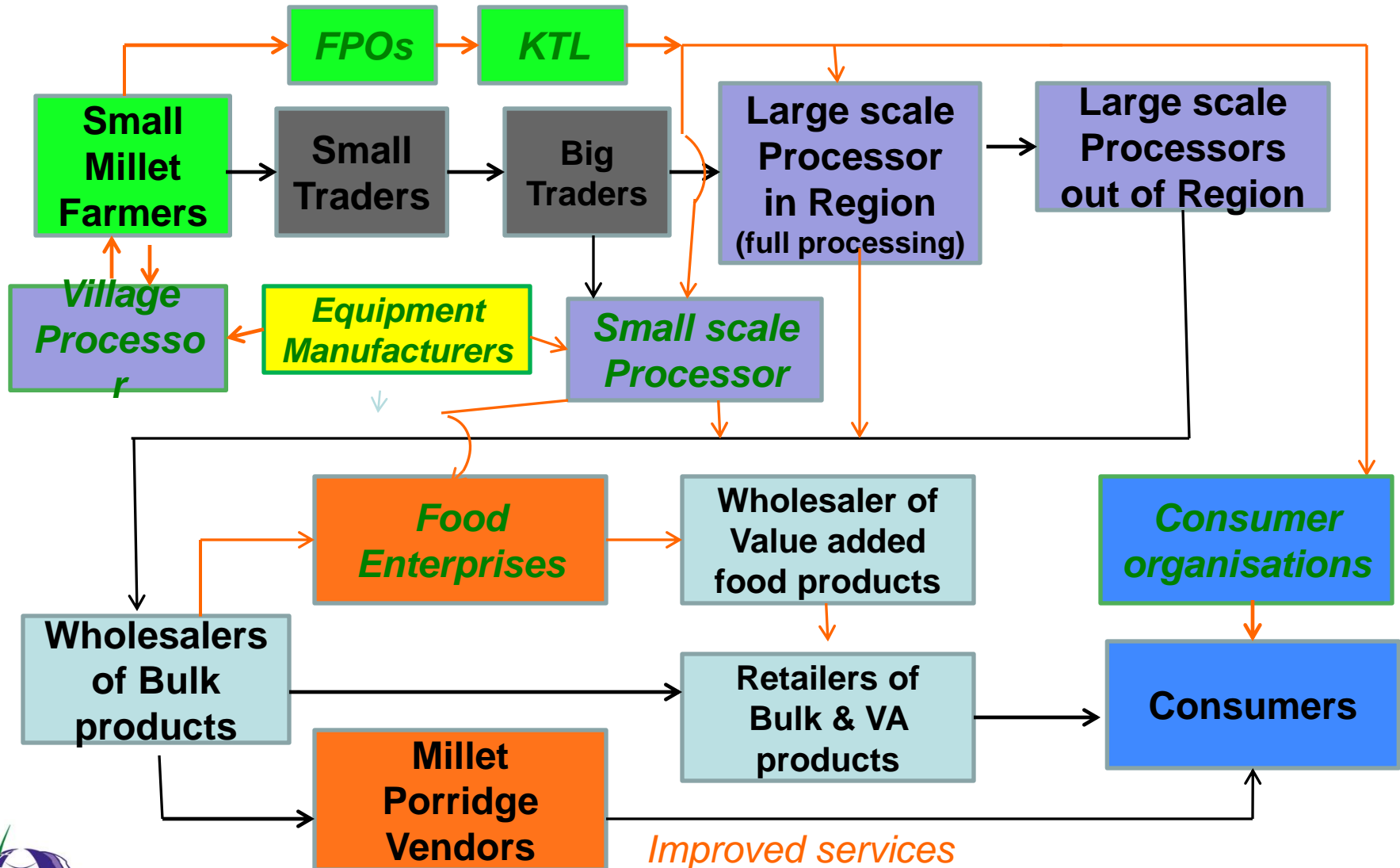
Catalyst:
***Participatory
multi-stakeholder
action***



Earlier Market Chain of Small Millets



Current Regional Market Chain of SM



Improving production

Production issues

1. Food crop- Not preferred
2. Cash crop- Lack of competitiveness
 - a. Fast declining crop and varietal diversity
 - b. Low productivity
 - c. High drudgery, particularly for women
 - d. Less developed markets
 - e. Unorganised production



1. Enhanced farmers' access to varietal diversity

- 132 local varieties characterised
- DNA barcoding evolved for SM
- 1-4 farmer preferred varieties/ crop identified thro' PVS

2. Location specific SAP identified & disseminated

3. Improved harvester introduced

4. Supported organised production & marketing

- a. Organising FIGs, Federations/ FPOs
- b. Effectively engaging in value chain



Plough models introduced



Reaper cum binder



Establishing decentralized processing

Issues with processing

- Centralised processing with high foodmiles
- Less nutritious output due to bran loss
- Poor performance of decentralised processing equipment
 - Less rice recovery
 - High cost of processing
- Lack of specific support to small scale processors



1. Developed processing equipment

a. Improved centrifugal huller prototypes

- a. Reduced foot print, weight and height and improved energy efficiency
- b. Improved versatility to meet village, micro and medium level enterprise needs

b. Pneumatic grain cleaner

c. Improved grader

d. General design improvements

- i) Safety
- ii) Functionality
- iii) Versatility
- iv) Women friendly



Double chamber centrifugal huller adopted by AVM Engineering– Microenterprise level - 100 kg/h



2. Commercialisation & scaling up through equipment manufacturers

Supporting five equipment manufacturers

- Improving their equipment
- Promotion/ popularisation
- Linking with potential buyers
 - Participation in trade fairs
 - Facilitation for on-line sales
 - Marketing through Indiamart
 - Website development



3. Supporting establishment / revival of SMPUs of different scale

- Demonstration of processing equipment in strategic locations
- Supporting startups in equipment purchase, installation and building capacity

Results

- Reached 29 districts in 8 states with 97 community level & 31 regional level processing units
- Trained 148 persons in Odisha, Tamil Nadu, Andhra Pradesh and Uttarakhand
- Supported 18 existing processing units



Strengthening food enterprises

1. Research on the health benefits & storage
2. Developed appealing healthful products
with TNAU - *Standardized 42 traditional and modern products & 14 therapeutic products*



3. Supporting food enterprises for commercialisation

- Product devt: Capacity building on product preparation, nutrition analysis and sensory evaluation
- Capacity building on food hygiene & safety and packaging
- Compliance with government protocols
- Improving visibility
- Facilitating B2B linkages
- Info on supportive schemes

Results

- 12 standardized products
- 20 have introduced new products
- 24 increased their scale of ops.
- 10 initiated production in Eastern India



Padmashree Foods, Tamil Nadu



4. Supporting millet porridge vendors

Issues

- Poor image in terms of hygiene and food safety
- Lack of recognition of their role as food provider

Support given

- Trainings and support for i) Adoption of food hygiene & safety practices & ii) FSSAI registration

Results

- 65 improved food hygiene
- 38 got FSSAI license



Millet Porridge Vendor in Madurai



Promoting household consumption

Issues

- Drudgery in manual hulling in production regions
- Deskillling over generations on use in regular diet
- Low social status
- Less awareness on the health benefits
- High price of small millet products
- Inadequate availability



1. Developed promotion materials

- a. Film on cooking demonstration in regional languages
- b. A music album of motivational songs developed
- c. A radio program
- d. Awareness posters

2. Promoting in production regions

A combination of awareness raising, skill building & huller assembly provision



Folk art for awareness raising



SMPU in Koraput, Odisha



Recipe demonstration



3. Promoting in non-production areas

- Organised large scale awareness programmes (WALKATHON)
- Value addition demonstration on a large scale
- Nutrition education and campaign through community radio and other media

4. Set up a market initiative- KTL

- 120 tonnes sold at 30 to 50 % lower price
- Reaching the poor through women/ farmer organisations

5. Pilots on introduction of SM in PFPs

- In ICDS in Srikakulam district, AP by WASSAN- **160 children**
- In schools at Malkangiri Dt., Odisha - **4162 students**



Major learning

- Nutrition dense NUS need value chain approach
- Engaging multiple actors is essential
- A combination of approaches to be followed- **Production based consumption, Market provision & Provision by State**
- It is possible to reach '*bottom of the pyramid*' consumers through innovative mechanisms
- State support is essential for establishing value chain and scaling up in different regions
- Our learning has relevance to many Asian and African countries





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